

UNIVERSITY OF RUHUNA

BACHELOR OF SCIENCE IN FISHERIES AND MARINE SCIENCES DEGREE

Level IV Semester I Examination – July/August 2017

OCG 4171 Geophysics for Ocean Sciences

Time: 1 hour

Answer any Two (2) of the following questions

1.

a. Briefly describe what is meant by a gravity anomaly and how positive and negative gravity anomalies arise using suitable sketches.

(20 Marks)

b. A gravity survey is carried out over a certain region. Give a list of corrections that you would make on raw gravity data in order to compile the Bouguer gravity anomaly map of the region. Describe in detail one of the corrections given in your list.

(30 Marks)

2.

a. What is a seismic wave? (05Marks)

b. Explain why P waves are commonly used to acquire seismic data for petroleum exploration. (15 Marks)

c. List five (5) seismic sources that can be used for seismic data acquisition. Briefly describe the advantages, disadvantages and limitation of each seismic source.

(10 Marks)

d. With sketches describe how two dimensional (2D) marine seismic data are acquired.

(20 Marks)

3. Write short notes on any **five (5)** of the following

(5*10 = 50 Marks)

a. Normal Moveout (NMO) Correction

b. Acoustic impedance

c. Multiples reflections

d. Magnetic Field of the Earth

e. Major sub-divisions of the Earth

f. Significance of gravity anomalies in the oil industry

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